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# **WATER SUPPLY OUTLOOK FOR NEVADA**



**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**  
Collaborating with  
**NEVADA DEPARTMENT of CONSERVATION  
and NATURAL RESOURCES  
DIVISION of WATER RESOURCES**

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF  
**JAN. 1, 1977**

U.S. DEPT. OF AGRICULTURE  
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## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.  
ORC-254-10

### PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# **WATER SUPPLY OUTLOOK FOR NEVADA**

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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# WATER SUPPLY OUTLOOK FOR NEVADA

DROUGHT CONDITIONS CONTINUE AS SNOW SURVEYS TAKEN THE END OF DECEMBER INDICATES A NON-EXISTENT SNOWPACK ON THE EAST SLOPE OF THE SIERRAS AND ALL OF NEVADA. ONLY HIGH ELEVATION SNOW COURSES IN THE SIERRAS HAS SNOW TO MEASURE AND THIS WAS MINIMAL. THIS IS THE THIRD YEAR IN A ROW THAT JANUARY 1 MEASUREMENTS HAVE BEEN MUCH BELOW AVERAGE.

RESERVOIR STORAGE IN THE SIERRA DRAINAGES ARE 29 TO 78 PERCENT OF AVERAGE AND IS THE LOWEST SINCE 1961. OTHER RESERVOIRS IN THE STATE HAVE EXCELLENT CARRY OVER STORAGE.

The drought conditions continue and the outlook for water supplies this season are poor.

Mountain snowpack was virtually non-existent as of December 31, 1976. This is the third year in a row that snowpack has been below average. Usually by this time of the year high elevation snow courses have 40 percent of their average snowpack.

Reservoir storage is poor in the Sierra drainages. Lake Tahoe has 187,000 acre feet compared to last year's 519,000 acre feet. This year's storage is 47 percent of average. On the Walker River, Topaz and Bridgeport reservoirs contain 8,000 and 9,000 acre feet respectively. This is only 29 and 38 percent of average and is the lowest storage since 1961.

Lahontan contains 124,000 acre feet which is 78 percent of average. Last year's storage was 194,000 acre feet.

Other reservoirs in the state are considerably above average. Wildhorse contains 44,000 acre feet as compared to last year's 57,000 acre feet. Rye Patch contains 101,000 acre feet or 123 percent of average. Colorado River storage in Lake Mead and Mohave are 122 percent and 106 percent of average.





# SNOW COURSE MEASUREMENTS

DRAINAGE BASIN and/or SNOW COURSE NAME	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (inches)	Water Content (inches)	Last Year	Average †

## LAKE TAHOE-TRUCKEE RIVER

Echo Peak	12/28/76	0	0.0	2.2	-
Fallen Leaf	12/28/76	0	0.0	T	-
Freel Bench	12/27/76	0	0.0	0.9	6.3*
Glenbrook #2	12/30/76	0	0.0	0.9	4.3*
Hagans Meadow	12/27/76	0	0.0	1.5	8.3*
Heavenly Valley	12/27/76	0	0.0	4.5	-
Independence Camp	12/28/76	0	0.0	1.6	-
Independence Creek	12/28/76	0	0.0	0.7	-
Independence Lake	12/28/76	3	0.5	8.4	-
Marlette Lake	12/28/76	0	0.0	1.8	-
Mount Rose	12/28/76	2	0.4	-	-
Mount Rose Ski Area	12/28/76	5	1.0	8.4	-
Richardsons #2	12/30/76	5	0.1	3.1	-
Squaw Valley #2	12/29/76	6	1.4	8.6	-
Tahoe City	12/30/76	0	0.0	0.0	-
Tahoe City Alternate	12/30/76	0	0.0	0.0	-
Tahoe City Cross	12/30/76	0	0.0	0.0	-
Upper Truckee	12/27/76	0	0.0	0.9	5.0*
Ward Creek #2	12/28/76	0	0.0	4.3	15.0*
Ward Creek #3	12/28/76	0	0.0	4.5	-

## CARSON-WALKER RIVERS

Ebbetts Pass #2	12/27/76	1	0.3	7.0	-
Lobdell Lake	12/27/76	0	0.0	-	-
Poison Flat #2	12/27/76	0	0.0	1.1	-
Sawmill Ridge	12/27/76	0	0.0	-	-
Sonora Pass	12/27/76	0	0.0	1.6	9.5*
Virginia Lakes	12/27/76	0	0.0	0.6	6.9*
Virginia Lakes Ridge	12/27/76	0	0.0	2.0	-
Wet Meadows Lake #2	12/27/76	4	0.8	3.8	-

## SNAKE RIVER

Bear Creek AM	Delayed Data			-	7.8*
Goat Creek AM	Delayed Data			7.2	6.4*
Hummingbird Springs AM	Delayed Data			-	7.6*
Merritt Mountain AM	12/28/76	0	0.0	3.0	-
Pole Creek Ranger Station	12/28/76	0	0.0	9.4	7.7*
Red Point AM	Delayed Data			-	4.4*
76 Creek AM	12/28/76	0	0.0	3.0	6.2*
Stag Mountain AM	12/28/76	0	0.0	3.0	-

### NOTE

All averages based on 1958-72, 15 year period. Forecast period is April 1 through July 31 unless otherwise noted. a-Aerial marker; water content estimated. \* 1958-72 adjusted average.



# SNOW COURSE MEASUREMENTS

DRAINAGE BASIN and/or SNOW COURSE NAME	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (inches)	Water Content (inches)	Last Year	Average †

## OWYHEE RIVER

Columbia Basin AM	12/28/76	0	0.0	3.0	-
Fawn Creek AM	12/28/76	0	0.0	3.0	-
Jack Creek, Upper AM	12/28/76	0	0.0	3.0	-
Taylor Canyon	12/28/76	0	0.0	1.0	1.8*

## UPPER AND LOWER HUMBOLDT RIVER

American Beauty AM	12/28/76	0	0.0	2.6	-
Corral Canyon AM	12/28/76	0	0.0	2.6	-
Fry Canyon	12/28/76	0	0.0	2.7	3.0
Midas AM	12/28/76	0	0.0	T	-
Robinson Lake AM	12/28/76	0	0.0	21.0	-
Rodeo Flat	12/28/76	0	0.0	-	-
Tent Mountain #1 AM	12/28/76	0	0.0	-	-
Tent Mountain #2 AM	12/28/76	0	0.0	11.6	-
Toe Jam AM	12/28/76	0	0.0	3.0	-
Tremewan Ranch	12/28/76	0	0.0	T	0.8
Trout Creek, Upper AM	12/28/76	0	0.0	5.6	-

NS No Survey  
T Trace

NOTE:  
All averages based on 1958-72, 15 year period. Forecast period is April 1 through July 31 unless otherwise noted.  
a-Aerial marker; water content estimated. \* 1958-72 adjusted average.



# RESERVOIR STORAGE (Thousand Acre Feet) as of January 1, 1977

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average†
Owyhee	Wild Horse	72	44	57	16
Lower Humboldt	Rye Patch	157	101	142	82
Colorado	Mohave	1,810	1,716	1,549	1,612
Colorado	Mead	26,159	21,258	20,086	17,429
Tahoe	Tahoe	732	187	519	394
Truckee	Boca	41	24	27	12
Truckee	Stampede	220	45	147	*
Truckee	Prosser***	30	9	9	8**
Carson	Lahontan	291	124	194	158
West Walker	Topaz	59	8	37	28
East Walker	Bridgeport	42	9	29	24
* Storage began August 1, 1969 ** Adjusted average *** Flood control use allocation of 20,000 ac. ft. between November 1 and April 10.					

## TOTAL RESERVOIR STORAGE (Thousand Acre Feet)

MONTH	This Year	Last Year	Average †
October 1	574	1,037	718
January 1	497	1,005	714
February 1		1,015	782
March 1		1,048	843
April 1		1,048	893
May 1		1,037	934

† 1958-1972 period.

The above data developed from Wild Horse, Rye Patch, Tahoe, Boca, Lahontan, Topaz, and Bridgeport Reservoirs in 1,000 Acre-Feet.

TOTAL USABLE CAPACITY





PRECIPITATION (Inches)

BASIN AND PRECIPITATION GAGE LOCATION	ELEVATION	DATE OF READING	ACCUM TOTAL 10/1/76 TO DATE INCHES	LAST YEAR INCHES
<u>LAKE TAHOE - TAHOE</u>				
Echo Peak	7800	12/28/76	4.6	12.8
Fallen Leaf	6240	1/3/77	1.7	
Independence Camp	7000	12/28/76	2.3	8.0
Independence Creek	6500	12/28/76	3.4	
Independence Lake	8450	12/28/76	7.2	
Marlette Lake	8000			
Mount Rose	9000	12/28/76	1.2	8.0
Ward Creek #3	6750	12/28/76	7.1	17.2
Truckee #2	6400			
Tahoe City Cross	6750			
<u>CARSON RIVER</u>				
Ebbetts Pass	8750	12/27/76	4.2	7.2
Wet Meadows	8050	12/27/76	4.0	5.0
<u>WALKER RIVER</u>				
Lobdell Lake	9200	12/27/76	.4*	
Sonora Pass	8800	12/27/76	5.2	8.6
Virginia Lakes Ridge	9200	12/27/76	4.3	
<u>HUMBOLDT RIVER</u>				
Rodeo Flat	6800	12/29/76	3.8	
*Since 11/4/76				



## Agencies Cooperating in Collecting Data Contained in this Bulletin

### FEDERAL

- Agricultural Research Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Sail Conservation Service
- U. S. District Court - Federal Water Master
- NOAA, National Weather Service

### STATE

- California Cooperative Snow Surveys
- California Department of Parks and Recreation
- California Department of Water Resources
- Colorado River Commission of Nevada
- Idaho Cooperative Snow Surveys
- Nevada Association of Conservation Districts
- Nevada Department of Conservation & Natural Resources
  - Division of Water Resources
  - Nevada State Forester
- Oregon Cooperative Snow Surveys
- Utah Cooperative Snow Surveys
- White Mountain Research Station, Univ. of California

### PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas and Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Truckee-Carson Irrigation District
- Walker River Irrigation District
- Washoe County Water Conservancy District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

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necessary for forecasting  
water supply for irrigation,  
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mining and industry

*"The Conservation of Water begins  
with the Snow Survey"*

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